Should the Examiner have any questions about to this application, the preliminary amendments submitted or the Claims Outline, please contact the undersigned at the contact address and/or numbers below.

Respectfully submitted,

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CLAIMS OUTLINE

1   **Network**

54. Independent claim

55.   Depends on claim 54

56.   Depends on claim 54

57.   Depends on claim 54

58.   Depends on claim 54

59.   Depends on claim 54

60.   Depends on claim 59

61.   Depends on claim 54

62.   Depends on claim 61

63.   Depends on claim 54

64.   Depends on claim 63

65.   Depends on claim 54

66.   Depends on claim 65

67.   Depends on claim 66

68.   Depends on claim 54

69.   Depends on claim 68

70.   Depends on claim 54

71. Independent claim

72.   Depends on claim 71

73.   Depends on claim 72

74.   Depends on claim 71

75.   Depends on claim 71

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76.   Depends on claim 75

77.   Depends on claim 71

78.   Depends on claim 77 with use of current network state

79.   Depends on claim 78 with use of anticipated network state

80.   Depends on claim 71

81.   Depends on claim 80

82.   Depends on claim 71

83. Independent claim

84.   Depends on 83

85.   Depends on claim 84

2.   Participant "Display"

86. Independent claim

87.   Depends on claim 86

88.   Depends on claim 86

89.   Depends on claim 86

90.   Depends on claim 89

91.   Depends on claim 89

92.   Depends on claim 86

93. Independent claim

94. Depends on claim 93

95. Depends on claim 94

96. Depends on claim 95

97. Depends on claim 95

98. Depends on Claim 93

99. Independent claim

100. Depends on claim 99

101. Depends on claim 100 in stereo

102. Depends on claim 99

103. Depends on claim 102

104. Depends on claim 103 in stereo

105. Independent claim

106. Depends on claim 105

107. Depends on claim 105

108. Depends on claim 105

3   Network 'Server' Based Features

109. Independent claim

110. Depends on 109

111. Depends on claim 110

112. Depends on claim 111

113. Depends on claim 109

114. Depends on claim 113

115. Depends on claim 114

116. Depends on claim 115

117. Depends on claim 109

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4   Workstation Hardware

118. Independent claim

119.   Depends on Claim 118

120.   Depends on claim 119

121.   Depends on claim 118

122.   Depends on claim 121

5   User Interface for Managing Teleconferences

123. Independent claim

124.   Depends on claim 123

125.   Depends on claim 124

126.   Depends on claim 125

127.   Depends on claim 124

128.   Depends on claim 124

129.   Depends on claim 123

130.   Depends on claim 123

6. System Management of Teleconferences

131. Independent claim

132.   Depends on claim 131

133. Independent claim

6.1   Incoming Calls

134.   Depends on claim 133

135.   Depends on claim 134

136.   Depends on claim 133

137.   Depends on claim 133

138.   Depends on claim 133

139.   Depends on claim 133

140.   Depends on claim 139

6.2   Accepting/Adding a Call

141. Independent claim

142. Independent claim

143.   Depends on claim 142

144. Independent claim

145. Independent claim

146.   Depends on claim 145

6.3   Deferring a Call

147.   Depends on claim 133

148.   Depends on claim 147

149.   Depends on claim 148

150.   Depends on claim 133

151.   Depends on claim 150

152.   Depends on claim 150

153.   Depends on claim 150

154. Independent claim

155. Independent claim

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7 Control of Multimedia Mail and Related Facilities

7.1 Creation of MMM

156. Independent claim

157.   Depends on claim 156

158. Independent claim

159.   Depends on claim 158

160.   Depends on claim 158

161.   Depends on claim 160

162.   Depends on claim 161

163.   Depends on claim 158

164.   Depends on claim 163

165.   Depends on claim 163

166.   Depends on claim 165

167.   Depends on claim 163

168.   Depends on claim 158

169.   Depends on claim 168

170. Independent claim

171. Independent claim

172.   Depends on claim 171

7.2 Managing Multimedia Mail

173.   Depends on claim 158

174.   Depends on claim 158

175.   Depends on claim 158

176.   Depends on claim 158

177.   Depends on claim 174

178.   Depends on claim 158

179.   Depends on claim 178

180.   Depends on claim 158

181.   Depends on claim 180

182.   Depends on claim 158

183.   Depends on claim 182

CLAIMS

54.   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a)   an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants, said AV path connecting the workstation of a first of said participants at a first location to the workstation of a second of said participants at a second location via a third location; and

(b)   an AV signal switcher at said third location, coupled to said AV path, for receiving and routing said AV signals to a location other than said third location if said AV signals are intended to be processed at said other location,

whereby the video image and spoken audio of said first participant can be routed to said second location, via said third location, and reproduced at the workstation of said second participant.

55.   The teleconferencing system of claim 54, further comprising at least a first and a second codec, in communication with said AV path and being respectively located at said first

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and second locations, for compressing said AV signals and decompressing compressed AV signals,

whereby captured video image and spoken audio of said first participant can be compressed by said first codec at said first location, routed from said first location to said second location via said AV signal switcher without being decompressed at said third location and decompressed by said second codec at said second location for reproduction at the workstation of said second participant.

56. The teleconferencing system of claim 54, whereby the video image and spoken audio of said first participant routed to said second location, via said third location, can be reproduced at the workstations of both said first and second participants.

57. The teleconferencing system of claim 54, wherein said AV path includes dedicated links between said first and third locations and between said second and third locations.

58. The teleconferencing system of claim 54, wherein said AV path includes dial-up connections between said first and third locations and between said second and third locations.

59. The teleconferencing system of claim 9, wherein said AV path supports both dial-up connections and dedicated links between said first and third locations and between said third and second locations.

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60. The teleconferencing system of claim 59, wherein said AV path includes a dial-up connection between said first and third locations and a dedicated link between said third and second locations.

61. The teleconferencing system of claim 54, further comprising a video mosaic generator, coupled to said AV path, for combining the captured images of a plurality of said participants into a mosaic image of said captured images.

62. The teleconferencing system of claim 61, further comprising means, in communication with said AV path, for combining a portion of said mosaic image with a captured image of another of said participants to generate a composite mosaic image of the captured images of said participants, whereby said composite mosaic image can be reproduced at the workstation of at least one of said participants.

63. The teleconferencing system of claim 54, further comprising an audio summer, coupled to said AV path, for combining the captured audio of at least a first and a second of said participants into an audio sum including the captured audio of each of said participants except for the first of said participants, whereby said audio sum can be reproduced at the workstation of said first participant.

64. The teleconferencing system of claim 63, further comprising means, in communication with said AV path, for combining a portion of said audio sum with the captured audio of

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another of said participants to generate a composite audio sum for reproduction at the workstation of at least one of said participants.

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65. A teleconferencing system of claim 54 further comprising:

(a) at least one signal router for routing at least said AV signals among participant's workstations in such a way so as to optimize the carrying of AV signals between said workstations.

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66. A teleconferencing system of claim 65 wherein said router optimizes said signal routing based on the state of said AV path.

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67. A teleconferencing system of claim 65 wherein said router optimizes signal routing based on the anticipated state of the AV path.

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68. The teleconferencing system of claim 54 wherein said AV path is defined by one of a Hierarchial-star or a peer-star topology.

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69. The teleconferencing system of claim 68 wherein said AV path includes at least one trunk and at least one codec associated therewith.

71

70. The teleconferencing system of claim 55 wherein said AV path includes at least one trunk and at least one codec associated therewith.

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71. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a data conference manager for managing a data conference during which data can be shared among a plurality of said participants and displayed on the monitors of their respective workstations;

(b) a second network interconnecting said workstations and providing an AV path, logically separate from said data path, for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants; and

(c) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants can be reproduced at the workstation of another of said participants, whereby the data path, data network operating system and data network protocol suite of said first network can be utilized by said data conference manager for managing said data conference and by said AV conference manager for managing said videoconference.

72. The teleconferencing system of claim 71 wherein said first and second networks employ physically separate paths.

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73. The teleconferencing system of claim 72 wherein said AV signals are analog signals.

74. The teleconferencing system of claim 71 wherein said AV and data signals are multiplexed on the same physical path.

75. The teleconferencing system of claim 71 wherein said AV and data paths are implemented with unshielded twisted pair wiring.

76. The teleconferencing system of claim 75 wherein said AV path is implemented with the remaining two pairs of an existing four-pair unshielded twisted pair wiring installation two pairs of which implement said data path.

77. The teleconferencing system of claim 71 comprising:

(a) at least one signal router for routing at least said AV signals among participant's workstations in such a way so as to optimize the carrying of AV signals between said workstations.

78. The teleconferencing system of claim 77 wherein said router optimizes said signals routing based on the state of said AV path.

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79. The teleconferencing system of claim 78 wherein said router optimizes signal routing based on the anticipated state of the AV path.

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80. The teleconferencing system of claim 71 wherein said first network and said AV path are based on one of a Hierarchial-star or peer-star network topology.

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81. The teleconferencing system of claim 80 wherein said AV path includes at least one trunk and at least one codec associated therewith.

83

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82. The teleconferencing system of claim 71 further comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

wherein said AV path includes at least one trunk and at least one codec associated therewith.

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83. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

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(b) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants is reproduced at the workstation of another of said participants;

(c) a participant locator which associates a first workstation with a first of said participants having a participant identifier, said identifier entered when said first participant logs into said first workstation, whereby a call to initiate a videoconference with said first participant is routed to said first workstation; and

(d) a plurality of switches, in communication with the AV and data paths, each switch being operable to put at least one workstation in communication with both the AV and data paths, whereby a teleconference can be established between any two or more participants out of a total pool of at least 100 participants.

84. The teleconferencing system of claim 83 wherein at least two of said switches are geographically dispersed and said AV and data paths are defined by at least one Wide Area Network.

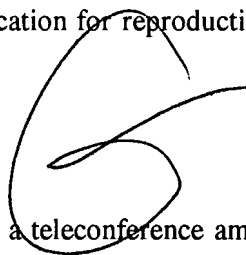85. The teleconferencing system of claim 84 wherein said AV path connects the workstation of a first of said participants at a first location to the workstation of a second of said participants at a second location via a third location, the system further comprising:

(a) an AV signal switcher at said third location, coupled to said AV path, for receiving and routing said AV signals to a location other than said third location if said AV signals are intended to be processed at said other location, whereby the video image and spoken audio of

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said first participant can be routed to said second location, via said third location, and reproduced at the workstation of said second participant; and

(b) at least a first and a second codec, in communication with said AV path and being respectively located at said first and second locations, for compressing said AV signals and decompressing compressed AV signals,

whereby captured video image and spoken audio of said first participant can be compressed by said first codec at said first location, routed from said first location to said second location via said AV signal switcher without being decompressed at said third location and decompressed by said second codec at said second location for reproduction at the workstation of said second participant.

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86. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

(b) a video mosaic generator, in communication with said AV path, for combining the captured images of a first and second of said participants into a mosaic image of said captured images; and

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(c) means, in communication with said AV path, for combining a portion of said mosaic image with a captured image of a third of said participants to generate a composite mosaic image of the captured images of said first, second and third participants,

whereby said composite mosaic image can be reproduced at the workstation of at least one of said first, second and third participants.

86

~~87.~~   The teleconferencing system of claim 86, further comprising:

(a) a close-up selector for selecting one of the participants whose image is reproduced in said distributed mosaic image and replacing said distributed mosaic image with the image of said selected participant.

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~~88.~~   The teleconferencing system of claim 86 further comprising:

(a) at least two video mosaic generators, each for combining the captured images of a plurality of participants into a mosaic image of said captured images; and

(b) image synchronization means for synchronizing the mosaic images generated by the video mosaic generators such that a plurality of mosaic images can be reproduced in real time at the workstations of each of said participants.

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~~89.~~   The teleconferencing system of claim 86 further comprising:

(a) a participant display selector for selecting which of said participants are to have their corresponding captured video image displayed in said mosaic image.

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91

90. The teleconferencing system of claim 89, wherein the participant display selector selects said participants automatically.

92

91. The teleconferencing system of Claim 89 wherein the video mosaic generator is operable to generate a video mosaic of fewer participants than the number of actual participants and the participant display selector is operable to select which of said actual participants will have a corresponding video image displayed.

93

92. The teleconferencing system of claim 87 further comprising:

(a) at least one codec for compressing said mosaic image and said captured image of said third participant, wherein said means for combining can combine said compressed mosaic image and said image of said third participant, without either image being decompressed.

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93. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

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(b) a video mosaic generator, coupled to said AV path, for combining the captured images of a first and second of said participants into a mosaic image of said captured images, whereby said mosaic image can be reproduced at the workstations of said first and second participants; and

(c) a close-up selector for selecting one of the participants whose image is reproduced in said mosaic image and replacing said mosaic image with the image of said selected participant,

whereby said mosaic image reproduced at the workstation of said first participant can be replaced by the image of a first selected participant and said mosaic image reproduced at the workstation of said second participant can be replaced by the image of a second selected participant.

95
94. The teleconferencing system of claim 93, further comprising:

(a) at least two video mosaic generators, each for combining the captured images of a plurality of participants into a mosaic image of said captured images; and

(b) image synchronization means for synchronizing the mosaic images generated by the video mosaic generators such that a plurality of mosaic images can be reproduced in real time at the workstations of each of said participants.

96
95. The teleconferencing system of claim 94, further comprising:

(a) a participant display selector for selecting which of said participants are to have their corresponding captured video image displayed in said mosaic image.

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97
96.   The teleconferencing system of claim 95, wherein the participant display selector

selects said participants automatically.

98
97.   The teleconferencing system of Claim 95 wherein the video mosaic generator is

operable to generate a video mosaic of fewer participants than the number of actual

participants and the participant display selector is operable to select which of said actual

participants will have a corresponding video image displayed.

99
98.   The teleconferencing system of claim 93 further comprising:

(a)   at least one codec for mosaic image and said captured image of said third

participant, wherein said means for combining a portion of said mosaic image can combine

said compressed mosaic image and said image of said third participant, without either image

being decompressed.

100
99.   A teleconferencing system for conducting a teleconference among a plurality of

participants having workstations with associated monitors for displaying

visual images, and with associated AV capture and reproduction capabilities for capturing and

reproducing video images and spoken audio of said participants, said workstations being

interconnected by a first network, said network providing a data path for carrying digital data

signals among said workstations, the teleconferencing system comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals

representing video images and/or spoken audio of said participants;

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(b) a video mosaic generator, coupled to said AV path, for combining the captured images of a first and second of said participants into a mosaic image of said captured images; and

(c) an audio summer, coupled to said AV path, for combining the captured audio of a plurality of participants into an audio sum including the captured audio of each of said participants except for a first of said participants,

whereby said audio sum can be reproduced at the workstation of said first participant.

101

~~100.~~ The teleconferencing system of claim ~~99;~~ 100 further comprising an echo canceler to reduce echo during the reproduction of said audio sum.

102

~~101.~~ The teleconferencing system of claim ~~100~~ 101 wherein said captured audio is produced, at a workstation, in stereo.

103

~~102.~~ The teleconferencing system of claim ~~99;~~ 100 further comprising:

(a) means, in communication with said AV path, for combining a portion of said mosaic image with a captured image of a third of said participants to generate a composite mosaic image of the captured images of said first, second and third participants,

whereby said composite mosaic image can be reproduced at the workstation of at least one of said first, second and third participants.

104

~~103.~~ The teleconferencing system of claim ~~102;~~ 103 further comprising an echo canceler to reduce echo during the reproduction of said audio sum.

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105
104. The teleconferencing system of claim 103 wherein said captured audio is produced, at a workstation, in stereo.

106
105. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a data conference manager for managing a data conference during which data can be shared among a plurality of said participants and displayed on the monitors of their respective workstations;

(b) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants; and

(c) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants can be reproduced at the workstation of another of said participants,

whereby said data conference and AV conference managers manage a teleconference among a plurality of participants such that, if at least one capability of the set of capabilities consisting of audio capture, audio reproduction, video capture, video reproduction, and the capability of connecting to said first network, is not available to at least one of said

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participants, each of said plurality of participants can participate in said teleconference to the extent of the capabilities available to said participant.

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~~106.~~ The teleconferencing system of claim ~~105~~ 106 wherein, if the workstations of a first and second of said participants have AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, and the workstation of a third of said participants does not have said AV capture and reproduction capabilities, said teleconference includes a data conference among said first, second and third participants managed by said data conference manager and a videoconference between said first and second participants managed by said AV conference manager.

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~~107.~~ The teleconferencing system of claim ~~105~~ 106 wherein, if the workstations of a first and second of said participants have AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, and the workstation of a third of said participants has audio, but not video, capture and reproduction capabilities, said teleconference includes a data conference among said first, second and third participants managed by said data conference manager and a videoconference among said first, second and third participants managed by said AV conference manager, wherein each of said first and second participants can reproduce the image and spoken audio of the other as well as the spoken audio of said third participant, and said third participant can reproduce only the spoken audio of said first and second participants.

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109.
108. The teleconferencing system of claim 105 wherein, if the workstations of a first 106

and second of said participants have AV capture and reproduction capabilities for capturing

and reproducing video images and spoken audio of said participants, and a third of said

participants participates in said teleconference by telephone, said teleconference includes a

data conference among said first and second participants managed by said data conference

manager and a videoconference among said first, second and third participants, wherein each

of said first and second participants can reproduce the image and spoken audio of the other as

well as the spoken audio of said third participant, and said third participant can reproduce

only the spoken audio of said first and second participants.

110.
109. A teleconferencing system for conducting a teleconference among a plurality of

participants having workstations with associated monitors for displaying visual images, and

with associated AV capture and reproduction capabilities for capturing and reproducing video

images and spoken audio of said participants, said workstations being interconnected by a first

network, said network providing a data path for carrying digital data signals among said

workstations, the teleconferencing system comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals

representing video images and/or spoken audio of said participants;

(b) an AV conference manager for managing a videoconference during which the video image

and spoken audio of one of said participants is reproduced at the workstation of another of

said participants; and

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(c) a participant locator which associates a first workstation with a first of said participants having a participant identifier, said identifier entered when said first participant logs into said first workstation, whereby a call to initiate a videoconference with said first participant is routed to said first workstation.

111
~~110.~~ The teleconferencing system of claim ~~109~~ 110 further comprising:

(a) a services directory for tracking the audio and video capabilities associated with each workstation, whereby a call, from a second to said first participant, and including a request for a service with respect to a first participant, is processed based on which capabilities associated with said first participant.

112
~~111.~~ The teleconferencing system of claim ~~110 further~~ 111 comprising:

(a) a plurality of switches, in communication with the AV and data paths, each switch being operable to put at least one workstation in communication with both the AV and data paths,

whereby a teleconference can be established between any two or more participants out of a total pool of at least 100 participants.

113
~~112.~~ The teleconferencing system of claim ~~111~~ 112 wherein at least two of said switches are geographically dispersed and said AV and data paths are defined by at least one Wide Area Network.

114
~~113.~~ The teleconferencing system of claim ~~109~~ 110 further comprising:

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(a) an AV signal switcher for receiving and routing said AV signals to an intended location; and

(b) at least one AV reproduction device with associated capabilities of reproducing audio and/or video signals at a workstation and for addressing a request for reproduction services generated at a workstation, wherein the AV conference manager includes a directory of each AV reproduction device and its associated capabilities, whereby a request for a reproduction service, generated at a workstation, is processed by the AV conference manager to cause an appropriate AV reproduction device to provide the requested reproduction service top said workstation.

115
~~114.~~   The teleconferencing system of claim ~~113~~ 114 wherein said AV conference manager, in processing said request, associates a plurality of different capabilities, of at least one AV reproduction device, to cause the providing of the requested reproduction service, according to a predetermined order of capabilities.

116
~~115.~~   The teleconferencing system of claim ~~114~~ 115 further comprising:

(a)   at least one interface for interfacing between said AV conference manager and an external AV reproduction device.

117
~~116.~~   The teleconferencing system of claim ~~115~~ 116 further comprising:

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(a) a user interface for enabling said first participant to select a capability associated with said

external AV reproduction device, whereby said AV conference manager causes the providing

of an AV reproduction service to the workstation associated with said first participant.

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110

~~117.~~ The teleconferencing system of claim ~~109~~ further comprising:

(a) signal format conversion means for converting signals of one format to another format,

whereby

the teleconferencing system can support capture and reproduction devices based on different

signal format standards.

119

~~118.~~ A teleconferencing system for conducting a teleconference among a plurality of

participants having workstations with associated monitors for displaying visual images, and

with associated AV capture and reproduction capabilities for capturing and reproducing video

images and spoken audio of said participants, said workstations being interconnected by a first

network, said network providing a data path for carrying digital data signals among said

workstations, the teleconferencing system comprising:

(a) a data conference manager for managing a data conference during which data can be

shared among a plurality of said participants and displayed on the monitors of their respective

workstations;

(b) a second network interconnecting said workstations and providing an AV path, logically

separate from said data path, for carrying AV signals among said workstations, said AV

signals representing video images and/or spoken audio of said participants;

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(c) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants can be reproduced at the workstation of another of said participants; and

(d) a dedicated video display on which said reproduced image can appear.

120
~~119.~~   The teleconference system according to claim 119 further comprising:

(a) an echo canceler to reduce echo during the reproduction of said claim 95 + said spoken audio.

121
~~120.~~   The teleconference system according to claim 119 wherein said dedicated video display is affixed to a side portion of the monitor at approximately the eye-level of a participant in a teleconference who is using said workstation.

122
~~121.~~   The teleconference system according to claim 119 further comprising:

(a) means for facilitating wireless communications between a participant and said data or AV networks; and

(b) a docking station for adding bandwidth to signals at a workstation, whereby wireless transmission of said signals to said data or AV network can be achieved.

123
~~122.~~   The workstation according to claim 122 including means to facilitate said wireless transmission of signals at least in part by a cellular telephone.

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124.
~~123.~~   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a common collaboration initiator for initiating a plurality of types of collaboration among said plurality of participants, said types of collaboration being selected from the set consisting of data conferencing, videoconferencing, telephone conferencing, the sending of faxes and the sending of multimedia mail messages, said common collaboration initiator including

     (i)   a participant selector for selecting one or more desired participants from among a plurality of potential participants; and

     (ii)   a collaboration type selector for selecting a desired collaboration type from among said plurality of collaboration types.

125.
~~124.~~   The teleconferencing system of claim ~~123,~~ 124, said participant selector having:

(a) a rolodex selector for selecting one or more desired participants from a first set of said potential participants; and

(b) a quick-dial selector for selecting one or more desired participants from a second set of potential participants, said second set being a subset of said first set.

124.
~~125.~~   The teleconferencing system of claim ~~124,~~ 125, wherein:

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(a) said rolodex selector includes names of the potential participants in said first set; and

(b) said quick-dial selector includes icons representing the potential participants in said second set.

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126. The teleconferencing system of claim 125, wherein said rolodex selector includes for means of selecting one or more desired participants from the first set of potential participants, whereby an icon representing said selected participant is displayed on the monitor of a workstation such that a participant represented by said icon can be selected by said quick-dial selector.

128

127. The teleconferencing system of claim 124, wherein said rolodex and quick-dial selectors are computer graphic images which have associated collaboration type selector buttons representing said collaboration types.

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128. The teleconferencing system of claim 124, wherein said rolodex and quick-dial selectors appear in the same window on a workstation monitor.

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129. The teleconferencing system of claim 123, wherein said common collaboration initiator can be invoked by a combination of: a user action for selecting each of said desired participants, a user action for selecting said desired collaboration type, and, if said desired collaboration type is not videoconferencing or telephone conferencing, additional user action for selecting information to be sent to at least one of said desired participants.

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131

130.   The teleconferencing system of claim 123, wherein said common collaboration

initiator can be invoked by a user action for selecting one of said participants and a default

collaboration type.

132

131.   A teleconferencing system for conducting a teleconference among a plurality of

participants having workstations with associated monitors for displaying visual images, and

with associated AV capture and reproduction capabilities for capturing and reproducing video

images and spoken audio of said participants, said workstations being interconnected by a first

network, said network providing a data path for carrying digital data signals among said

workstations, the teleconferencing system comprising:

(a) a data conference manager for managing a data conference during which data are shared

among a plurality of said participants and displayed on the monitors of their respective

workstations;

(b) an AV path for carrying AV signals among said workstations, said AV signals

representing video images and/or spoken audio of said participants;

(c) an AV conference manager for managing a videoconference during which the video image

and spoken audio of one of said participants is reproduced at the workstation of another of

said participants;

(d) a call control means for controlling a connection between a workstation and a destination

device, said destination device being another workstation or other reproduction devices in

communication with at least one of said data or said audio paths, said call control means

being operable to generate at least one callhandle, associated with each of said workstation,

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and said destination, each callhandle including a state indicator for indicating the state of its associated workstation or destination, wherein said state can be any one of the group consisting of idle, ringing, active and hold, in which

an idle state represents that said workstation is available to accept an incoming teleconference call;

a ringing state represents that an attempt is being made to establish a teleconference with said workstation;

an active state represents that said workstation is actively participating a teleconference; and

a hold state represents that said workstation has placed at least one call on hold and is able to accept an incoming call.

133.
~~132.~~   According to claim 131, wherein said teleconference includes at least three participants.

134
~~133.~~   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) an incoming call acceptance mechanism for detecting an incoming teleconference call, initiated by a first participant, at the workstation of a second participant and, if said second participant is engaged in an active teleconference call, invoking telephone mode, whereby said second participant is notified of and provided with the option of accepting said incoming teleconference call.

135
~~134.~~   The teleconferencing system of claim ~~133~~ 134, further comprising:

(a) an incoming call mode selector for selecting a desired incoming call mode from one of an intercom mode and a telephone mode, whereby

    (i)   if telephone mode is selected or said first participant is engaged in an active teleconference call, said first participant is notified of and provided with the option of accepting said incoming teleconference call, and

    (ii)   if intercom mode is selected, said incoming call can be accepted automatically.

136
~~135.~~   The teleconferencing system of claim ~~134~~ 135 wherein the incoming call acceptor can block all incoming teleconference calls.

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~~136.~~   The teleconferencing system of claim ~~133~~ 134 wherein said call acceptance mechanism includes a priority call announcer for indicating to a user of a workstation that a priority teleconference call is being directed to said workstation.

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~~137.~~ The teleconferencing system of claim ~~133~~ 134 further comprising:

(a) a teleconference call acceptance detection mechanism for detecting whether a first participant accepted a teleconference call initiated by a second participant; and

(b) a leave word indicator for, if said first participant did not accept said teleconference call, leaving a message for said first participant indicating that said second participant attempted to call said first participant.

139
~~138.~~ The teleconferencing system of claim ~~133~~ 134 wherein, if first participant opts for selecting said incoming teleconference call, the incoming call acceptance mechanism places said active teleconference call on hold and accepts said incoming teleconference call.

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~~139.~~ The teleconferencing system of claim ~~133~~ 134 further comprising:

(a) a call initiator associated with said first participant attempting to initiate said teleconference call with said second participant, the call initiator including a call status indicator for indicating the status of said call to said first participant.

141
~~140.~~ The teleconference system of claim ~~139~~ 140, wherein said incoming call acceptance mechanism is operable to display the origin of said incoming call.

142
~~141.~~ A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video

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images and spoken audio of said participants, said workstations being interconnected by a

first network, said network providing a data path for carrying digital data signals among said

workstations, the teleconferencing system comprising:

(a) an add participant selection mechanism for selecting a new participant from among a

plurality of potential participants and adding said new participant to an active teleconference

call.

143
~~142.~~　　　A teleconferencing system for conducting a teleconference among a plurality of

participants having workstations with associated monitors for displaying visual images, and

with associated AV capture and reproduction capabilities for capturing and reproducing video

images and spoken audio of said participants, said workstations being interconnected by a first

network, said network providing a data path for carrying digital data signals among said

workstations, the teleconferencing system comprising:

(a) an incoming call handling mechanism for detecting, during a first teleconference call

between a first and second of said participants, an attempt by a new caller to initiate a second

teleconference call to said second participant, and for notifying said second participant that

said new caller is attempting to call said second participant; and

(b) an incoming call acceptance mechanism for adding said new caller to said first

teleconference call.

144
~~143.~~　　　The teleconferencing system according to claim ~~142~~ 143 wherein said incoming call

handling mechanism can detect and said incoming call acceptance mechanism can add a pre-

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existing second teleconference call, between at least a third and a fourth participant to said first teleconference call.

145

~~144.~~   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a teleconferencing manager for managing a teleconference among said plurality of participants, and allowing at least one of said participants access to at least one multimedia service for providing audio and/or video signals to be reproduced at the workstation of another of said participants for receiving video images and/or spoken audio of said other participant.

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~~145.~~   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

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(a) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

(b) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants is reproduced at the workstation of another of said participants;

wherein said AV conference manager is operable to support a maximum number of calls equal to N, where N is any integer, associated with a workstation; and

(c) a call selector which enables a participant, operating said workstation, when faced with M possible calls where M is an integer greater than N, to select N calls of the M possible calls.

147

~~146.~~ The teleconferencing system of claim ~~145~~ 146 further comprising means to invoke further calls, operable by said participant, even if said AV conference manager is supporting N calls, whereby said participant is given the opportunity to select the N calls.

148

~~147.~~ The teleconferencing system of claim ~~133~~ 134 further comprising

(a) an incoming call postponing mechanism, operable by said first participant, for notifying a participant initiating said incoming teleconference call that said first participant, instead of accepting said call, wishes to postpone it to a later time.

149

~~148.~~ The teleconferencing system of claim ~~147~~ 148 wherein first second participant can operate said incoming call postponing mechanism to indicate, to said participant initiating said incoming call, an expected period of time by which said incoming call is to be postponed.

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150. 149. The teleconferencing system of claim 149 148 further comprising means to capture and save particulars with respect to said postponed incoming teleconference call, sufficient enough for said first participant to initiate a teleconference call, with the participant who initiated said postponed incoming teleconference call.

151. 150. The teleconferencing system of claim 134 133, further comprising a teleconference call deferring mechanism, operable by a first participant in a teleconference between said first and at least, a second participant, to defer said teleconference and to capture the state of said teleconference call, said state including sufficient particulars to enable at least one of said participants to re-establish said teleconference call.

152. 151. The teleconferencing system of claim 151 150 wherein said first participant can operate said call deferring mechanism to indicate, to at least said second participant, an expected period of time by which said teleconference call is to be deferred.

153. 152. The teleconferencing system of claim 151 150 wherein said call deferring mechanism causes addressing identifiers relating to participants and to documents to be recorded, whereby, when said call is re-established, the monitors of the workstations display a recreation of their respective displays at the time said call was deferred.

154. 153. The teleconferencing system of claim 151 150 wherein said call deferring mechanism causes the images displayed on the monitor of each participant to be recorded when said

teleconference call is deferred, whereby each said participant can access said recorded images after said call is deferred.

155
154. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a remote participant hold selection mechanism for placing on hold, in a videoconference call among a hold-activating participant and a plurality of other participants, at least one of said other participants.

156
155. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a remote participant disconnection mechanism for disconnecting, in a teleconference call among a disconnector participant and a plurality of other participants, at least one of said other participants.

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~~156.~~   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a)   a data conference capture tools for capturing data generated at a workstation of a preparing participant;

(b)   annotation tools for annotating said captured data; and

(c)   a multimedia mail system for preparing and storing, as a multimedia mail message, said captured and annotated data, and for forwarding said multimedia mail message to a receiving participant, whereby said multimedia mail message can be received at any one of at least three collaborative venues being

    (i)   in real time at a location received from said preparing participant;

    (ii)   at a different time at the same location as said message was prepared; or

    (iii)   at a different time at a location removed from said preparing participant.

158

~~157.~~   The teleconferencing system of claim 156 wherein said multimedia mail system is in communication with a graphical animations originator device which can generate, save and replay animated graphical images to be included in a multimedia mail message.

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159
~~158.~~   A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) an AV conference capture tools for capturing audio and video generated, during a videoconference, at the workstation of a preparing participant;

(b) a multimedia mail system for preparing and storing, as a multimedia mail message, said captured video and audio for forwarding said multimedia mail message to a receiving participant whereby said multimedia mail message can be received at any one of at least three collaborative venues being

(i)   in real time at a location received from said preparing participant;

(ii)   at a different time at the same location as said message was prepared; or

(iii)   at a different time at a location removed from said preparing participant.

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~~159.~~   The teleconferencing system of claim ~~158~~ wherein the captured video images and audio includes video images and spoken audio directly associated with said preparing participant and at least one of video images and audio not directly associated with said preparing participant.

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~~160.~~   A teleconferencing system according to claim ~~158~~ further comprising:

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(a)   a message tagger for defining a tag associated with a selected portion of a multimedia

mail message; and

(b) means for highlighting a part of said selected and tagged portion of said multimedia mail

message whereby said tagged portion and said highlighted part of said message can be

selectively displayed by said receiving participant when said multimedia mail message is

~~reproduced~~.

162
~~161.~~   A teleconferencing system according to claim ~~160~~ 161 further comprising a tag

searcher for searching for a defined video tag whereby said portion of said message can be

selectively displayed.

163
~~162.~~   A teleconferencing system according to claim ~~161~~ 162 wherein said tag searcher can

search a plurality of multimedia mail messages to locate said defined tag.

164
~~163.~~   The teleconferencing of claim ~~158,~~ 159 further comprising:

(a) a data conference manager for managing a data conference during which data are shared

among a plurality of said participants and displayed on the monitors of their respective

workstations; and

(b) a multimedia conference recorder for synchronizing and recording both the video image

and spoken audio of said participants during said videoconference and the data shared during

said data conference.

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164. The teleconferencing system of claim 163 further comprising:

(a) capture tools for capturing said data to be shared, and

(b) annotation tools for annotating said shared data during a data conference;

wherein said multimedia conference recorder is operable to synchronize said annotated data conference with said videoconference.

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165. The teleconferencing system of claim 163 wherein the multimedia mail system includes the multimedia conference recorder and a multimedia document storage and display mechanism for storing a multimedia document such that the multimedia document can be retrieved by a participant.

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166. The teleconferencing system of claim 165 wherein information can be transferred between the multimedia mail system, the multimedia conference recorder and the multimedia document storage.

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167. The teleconferencing system of claim 163 further comprising:

(a) an AV file system for storing and retrieving both the video image and spoken audio of said preparing participant and said recorded video image and spoken audio.

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168. The teleconferencing system of claim 158, further comprising:

(a) a multimedia mail depository associated with the receiving participant and being operable to receive and store multimedia mail messages under direction of the preparing participant.

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170 169 169. The teleconferencing system) of claim 168 wherein the mail depository is operable, by the preparing the participant, to receive mail messages having at least one component selected from the group consisting of audio, video and data components.

171 170. A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) a data conference manager for managing a data conference during which data are shared among a plurality of said participants and displayed on the monitors of their respective workstations;

(b) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

(c) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants is reproduced at the workstation of another of said participants; and

(d) a multimedia mail system for storing, as a multimedia mail message, data and/or AV signals generated at the workstation of a preparing participant, during said teleconference and for forwarding said multimedia mail message to a receiving participant, whereby said

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multimedia mail message can be received at any one of at least three collaborative venues being

    (i)   in real time at a location received from said preparing participant;

    (ii)   at a different time at the same location as said message was prepared; or

    (iii)   at a different time at a location removed from said preparing participant.

17.

~~171.~~ A teleconferencing system for conducting a teleconference among a plurality of participants having workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of said participants, said workstations being interconnected by a first network, said network providing a data path for carrying digital data signals among said workstations, the teleconferencing system comprising:

(a) an AV path for carrying AV signals among said workstations, said AV signals representing video images and/or spoken audio of said participants;

(b) an AV conference manager for managing a videoconference during which the video image and spoken audio of one of said participants can be reproduced at the workstation of another of said participants; and, at least one of

(c) a multimedia mail system for storing, as a multimedia mail message, AV signals generated at the workstation of a preparing participant, and for forwarding said multimedia mail message to a receiving participant; or

    a multimedia conference recorder for recording the AV signals representing the video images and spoken audio of said participants during said videoconference,

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whereby said AV path carries the AV signals generated during said videoconference, recorded by said multimedia conference recorder, and included in said multimedia mail message.

173
~~172.~~   The teleconferencing system of claim ~~171~~ 172, further comprising:

(a) an AV storage server for storing AV signals prepared by said multimedia mail system or recorded by said multimedia conference recorder, wherein

(i)   said AV signals carried from said workstations to said AV storage server can be either analog or digital signals;

(ii)   said AV signals carried from said AV storage server to said workstations can be either analog or digital signals; and

(iii)   said AV signals can be stored in said AV storage server either as analog or digital signals.

174
~~173.~~   The teleconferencing system of claim ~~158~~ 159 further comprising a multimedia mail retrieval system for producing a list of stored multimedia mail messages and for enabling a participant to access said list of messages, browse through said list, select one of said messages and retrieve said selected message.

175
~~174.~~   The teleconferencing system of claim ~~158~~ 159 further comprising:

39

(a) a first mail message transport system for transferring, from the preparing participant to a location associated with the receiving participant and along the data path, data relating to the mail message; and

(b) a second mail message transport system for transferring, from the preparing participant to a location associated with the receiving participant, the captured video images and audio.

174
175. The teleconferencing system of claim 158 wherein said multimedia mail system includes a mail priority indicator which, when associated with a multimedia mail message, causes said multimedia mail message to be forwarded to said receiving participant on an expedited basis, and for alerting said receiving participant of the existence of said message delivered on an expedited basis.

176
176. The teleconferencing system of claim 158 wherein said multimedia system includes a removable physical mail storage media onto which said multimedia mail message can be stored, at a first location, and thereafter removed and physically transported to a second location at which said stored multimedia message can be reproduced.

177
177. The teleconferencing system of claim 174 further comprising:

(a) a least one multimedia mail message compression device, having a first set workstation associated therewith, for compressing a multimedia mail message into a format suitable for transmission on said data path, and

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(b) a mail message decompression device associated with a remote workstation for

decompressing said compressed mail message,

whereby a mail message sent from a workstation in said first set is compressed before

being transferred to said remote workstation and decompressed at or near said remote

~~workstation.~~

179
~~178.~~   The teleconferencing system of claim ~~158~~ 159 further comprising a message recipient

selector for selecting a plurability of message recipients, from a pre-existing database of

recipients, and for associating a message transfer medium with each of said selected

recipients,

whereby a message can be sent to said selected recipient using said associated message

transfer medium.

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~~179.~~   The teleconferencing system of claim ~~178~~ 179 further comprising an editor for

reviewing and changing the selected message recipients and said message transfer medium

associated with any selected recipient.

181
~~180.~~   The teleconferencing system of claim ~~158~~ 159 further comprising search tools which

allow a receiving participant to search within a multimedia mail message.

182
~~181.~~   The teleconferencing system of claim ~~180~~ 181 wherein said search tools allow a

participant to search across a plurality of messages.

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183
182. The teleconferencing system of claim 159 further comprising synchronization means for capturing and storing the relative timings associated with any displays at the workstation of a participant, whereby said are reproduced in synchronization when the receiving party accesses said message.

184
183. The teleconferencing system of claim 183, further comprising means, operable by said receiving participant, to selectively halt and continue said accessed message.